PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : C07K 14/08, G01N 33/68 — A2

(11) International Publication Number: WO 96/20952

(43) International Publication Date: 11 July 1996 (11.07.96)

(21) International Application Number: PCT/SE95/01591

(22) International Filing Date: 28 December 1995 (28.12.95)

(30) Priority Data:
9404572-1 30 December 1994 (30.12.94) SE

(71) Applicant *(for all designated States except US)*: ELL-KONSULTER [SE/SE]; St. Eriksgatan 130 A, S-113 43 Stockholm (SE).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: LUCAS, Richard, Brent [SE/SE]; St. Eriksgatan 130 A, S-113 43 Stockholm (SE).

(74) Agents: ONN, Thorsten et al.; AB Stockholms Patentbyrå, Zacco & Bruhn, P.O. Box 23101, S-104 35 Stockholm (SE).

(81) Designated States: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

Without international search report and to be republished upon receipt of that report.

(54) Title: DOCUMENT PRE-PROCESSING SYSTEM

(57) Abstract

The invention disclosed pertains to a central pre-processing system (10) with logistics for documents as well as system access (10) based on subscriber identities at the operator of telecommunications system (14). Furthermore the system is based on electronic interaction between databases (22, 24, 26) handled by a central administrator in order to avoid in-house handling of logistics regarding mail sorting, conveyance and document procurement. Also set forth are interfaces for logging on to the system and a device for the purpose.

BEST AVAILABLE COPY

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AM	Armenia	GB	United Kingdom	MW	Malawi
AT	Austria	GE	Georgia	MX	Mexico
AU	Australia	GN	Guinea	NE	Niger
BB	Barbados	GR	Greece	NL	Netherlands
BE	Belgium	HU	Hungary	NO	Norway
BF	Burkina Faso	IE	Ireland	NZ	New Zealand
BG	Bulgaria	IT	Italy	PL	Poland
BJ	Benin	JP	Japan	PT	Portugal
BR	Brazil	KE	Kenya	RO	Romania
BY	Belarus	KG	Kyrgystan	RU	Russian Federation
CA	Canada	KP	Democratic People's Republic of Korea	SD	Sudan
CF	Central African Republic			SE	Sweden
CG	Congo	KR	Republic of Korea	SG	Singapore
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LK	Sri Lanka	SN	Senegal
CN	China	LR	Liberia	SZ	Swaziland
CS	Czechoslovakia	LT	Lithuania	TD	Chad
CZ	Czech Republic	LU	Luxembourg	TG	Togo
DE	Germany	LV	Latvia	TJ	Tajikistan
DK	Denmark	MC	Monaco	TT	Trinidad and Tobago
EE	Estonia	MD	Republic of Moldova	UA	Ukraine
ES	Spain	MG	Madagascar	UG	Uganda
FI	Finland	ML	Mali	US	United States of America
FR	France	MN	Mongolia	UZ	Uzbekistan
GA	Gabon	MR	Mauritania	VN	Viet Nam

Document pre-processing system

Field of invention

The present invention pertains to a pre-processing system with logistics for documents, eliminating delays for document procurement/ conveyance, with an administrator and centrally placed computer connected to a modem pool or an exchange for telecommunications and accessible via existing telecommunications and computer networks. In the embodiments described herein a subscriber identity at the operator of a telecommunications system is used to give access to the area of the storage medium corresponding to subscriber identities.

History of the prior art

For a number of years many businesses and organizations such as banks, insurance companies, credit institutes, authorities (taxation authorities) etc. have used so-called document management systems with work-flow steering of work processing to raise efficiency in handling routine matters of business such as claims adjustments, credit evaluations etc. Systems have been developed for the automatic scanning of documents and the digitalization of relevant information, thereby enabling a number of decision makers to work with the same case simultaneously via a local area computer network. Built in checkpoints and re-routing eliminate the bottlenecks and waiting time which manual handling often entails. The final results can be measured by businesses and organizations in terms of better efficiency, time gained, safety, competitiveness and customers service.

Despite the increase in efficiency brought about by these systems, users must wait for incoming post (for example, application forms filled in by customers) via the normal flow of mail. Sorting, scanning, digitizing, indexing, control etc. takes place on the premises before the real case-work can begin. Costs for these delays and in-house handling greatly reduces the total value of these systems. This has caused many users of such document management systems to try to avoid the need to construct their own time consuming and expensive pre-processing systems. The alternative is the "outsourcing"of these operations to other business offering these services.

Since December 1988 the Department of Defense (DoD) of the United States has used its purchasing power to push for the implementation of standards for digital data exchange. The best known of these standards is DoD's "Computer-aided Acquisition and

Logistic Support" (CALS).

The three main categories of standards developed by CALS are:

i. Standards for data exchange yielding general rules for the digital exchange of technical information.

ii. Data management and access standards bringing about mutual definitions of data elements, their attributes, conditions, integrity limits and rules for access.

iii. Application support which helps purchasers to understand when, where and how standards are to be applied for supporting information exchange and access requirements, as well as, how they are applied to define those functional requirements for the integration of the acquisitions process which creates and uses this information.

It is inevitable that the CALS standard will greatly influence the use of EDI ("Electronic Data Interchange") in the European sectors of industrial production etc. An important function in CALS pertains to standards governing the physical appearance of procurement documents. CALS points to the future importance of the development of systems to manage document intensive operations with procedural determination. Therefore there is a great need for systems which expedite digital information interchange, especially for businesses, government authorities and organizations.

Summary of the disclosed invention

An object of the present invention is to make possible an electronic pre-processing system (Electronic Information Interchange ®) and the storage of documents, forms and other normal formulas linked with/to the existing document management systems of businesses and organizations such as computers, LAN(Local Area Networks), telecommunications equipment etc., without manual pre-processing such as logistics for incoming and outgoing mail.

Another object of the invention is to reduce or eliminate waiting time and delays caused by the physical conveyance of mail and document procurement.

A further object of the invention is to bring about an interface with procedures for log-on to handle the electronic flow of document transactions between the users, which in a special embodiment of this invention is based upon the use of user subscriptions to an operator of telecommunications services with corresponding identities enabling the user to fully or partly use the electronic pre-processing system.

A still further object of the invention is to accomplish an interface that allows a customer to a database subscriber to log-on without a password.

Yet another object is to accomplish a device that accomplishes the log-on to the system.

In order to achieve the above objects, the present invention sets forth a pre-processing system with logistics for documents eliminating delays pertaining to document procurement and conveyance. The system being centrally located at an administrator of the system, and is comprised of a computer connected to at least one electronic storage medium and, furthermore, the computer is connected to a telecommunications exchange or modem pool. Whereby the computer together with the storage medium make up a node in the system which, via an exchange, can be connected to similar nodes.

The system being accessible via existing telecommunications and computer networks, where the storage medium enables the use of at least three separate memory areas for each database subscriber connected to the system, the first memory area comprising a document database for storing document templates, the second a records database for filing the database subscribers´ internal documents and filled in incoming documents from externally concerned customers, and the third a response database through which all, from the nodes incoming and outgoing procurement and conveyance of document dispatches and external incoming documents between the database subscriber and for its externally concerned customers pass and are stored.

Said pre-processing system having two interfaces, an internal for each and every database subscriber and an external for each and every database subscriber´s externally concerned customers which have been granted access to at least the document database and the response database respectively by the database subscriber.

Interfaces are allowing document procurement and conveyance transactions between database subscribers and between database subscribers and other externally concerned customers. If said document transactions are resulting in the procurement/conveyance of physical paper documents to and from nodes at the systems central location, they are to be handled and dispatched by the administrator of the system.

Those who log-on to the system for access to the databases can specify any of the database subscriber identities, said identities being received from one or more telecommunications operators.

Person logging on are connected to the electronic storage medium for the databases, by which he/she is verbally or automatically prompted to give any of his/hers subscriber's

identities which have been obtained by one or more operators of telecommunications services.

Externally concerned customers and database subscribers can have different subscriber identities for being connected to the system, whereby externally concerned customers are prompted to select the alternatives, document database or response database respectively.

An alternative to prompting are the automatic number recognitions in a modern exchange and the fact that the dialled number by an A-party subscriber always is recognized by an exchange, whereby the access to databases can be automatically conducted as described more in detail below.

Alternatively database subscribers give a passcode (password), whereby they receive access to the databases.

According to the system all subscriber identities can be controlled via a first register connected to the system administrator and all customers to a database subscriber can be controlled by a second register connected to a specific database subscriber.

As an embodiment, the communications with the databases are controlled by menus. The menu controlled communications could optionally be regulated by an exchange operator when a telephone conversation is involved.

Database subscribers are able to send requisition orders for individual and specific documents to the administrator of the document pre-processing system. A requisition order means that the administrator shall mail, convey or transmit the relevant document or documents from either the document database, records database or response database to a specified addressee.

Alternatively the administrator stores document templates in its equivalent to the document database from which can be produced forms (formulas) ordered by a customer and then convey them to those whom the order designates, whereafter, the in such a way procured and returned filled in documents are stored into the ordering customers´ response database and records database.

Optionally the computer has an interface to the administrator's own systems for transport planning and economy.

The present invention also sets forth interfaces for logging on to a pre-processing system according to above. Those interfaces allow a customer to a database subscriber to log-

on to said system without any pass code. In contrary the database subscriber logs on by a pass code, thereby connecting to said interfaces by at least one subscriber identity for every database subscriber. Subscriber identities being obtained from telecommunication operators, where at least one subscriber identity opens up a first register storing all said administrators database subscriber identities, comparing the connecting subscriber identity with said subscriber identities stored in said first register.

If said comparing turns out successfully, it grants a first access to the system, whereby said first access prompts a data base subscriber to enter a pass code and if the passcode is granted it opens the internal interface or if the first access prompts a customer to give his subscriber identity, the system stores, in a second register, database subscribers customer identities.

When comparing the given subscriber identity with stored identities, and the comparing being successfully conducted the system grants a second access opening up said external interface. The second access connects to a menu where the customer decides which databases he/she would like to gain access to.

Further, said decisions open up a menu for the, by decision, chosen database, and said second access opens up a menu attended for the database subscriber. In one embodiment communications with databases are controlled by menus in general. Also possible is to regulate menu controlled communications by an exchange operator when a telephone conversation is involved.

An embodiment of the present invention involves that database subscribers can send requisition orders for individual and specific documents to the administrator of the document pre-processing system. A requisition order comprises that the administrator shall mail, convey or transmit the relevant document or documents from either the document database, records database or response database to a specified addressee.

In yet another embodiment the administrator stores document templates in its equivalent to the document database from which can be produced forms (formulas) ordered by a customer and then convey them to those whom the order designates, whereafter, the in such a way procured and returned filled in documents are stored into the ordering customers' response database and records database.

Preferably the computer includes an interface to the administrator's internal systems for transport planning and economy.

The present invention also sets forth a device for logging on to a pre-processing system with logistics for documents eliminating delays pertaining to document procurement and conveyance according to above. The system comprises:

means for addressing and downloading data from a first register storing all administrators database subscriber identities or for addressing and downloading data from a second register storing all subscriber identities being obtained from telecommunication operators for one database subscriber;

means for comparing the system connecting subscriber identity with said subscriber identities stored in said first register or for comparing the connecting customer identities stored in said second register;

means for granting a first access and a second access to the system if said comparing of identities is successfully conducted or if the pass code is correct. Whereby the second access opens up said external and internal interface respectively.

Preferably the device is connected to the computer and said storage medium.

Brief description of the drawing

The following text is a more detailed description of the invention with references made to the attached figures, wherein:

Fig. 1 illustrates a pre-processing system according to the invention with user interfaces; and

Fig. 2 illustrates a flow chart for connecting a storage medium with the interfaces according to the invention.

Detailed description of preferred embodiments

In order to illustrate the advantages of the embodiments of the present invention a mail distributing company (MDC), for example, is supposed as the administrator of an electronic pre-processing system 10 according to the invention. An insurance company 12 is connected via one or more subscriber identities with the pre-processing system, for example, telefax number, telephone number (mobile or public net) issued by an operator of telecommunications 14, that is, a business enterprise which offers telecommunication services and operates telecommunications and computer networks. A person who is a customer of the insurance company (ICC) is supposed to make a claim in one of the herein described embodiments. Also the ICC may be connected by one or more subscriber identities to any/some telecommunications operator. The person ICC who wishes to make a claim may,

in his/her turn, be a customer of the MDC electronic pre-processing system 10.

Fig.1 illustrates the pre-processing system 10 which has a telephone exchange 16 interfacing with its customers (ICC, business A and B... as well as organizations). For example, the exchange can be the fully automatic type, such as that of Ericsson offering the AXE-concept, the MD-110 etc. Preferably, the exchange 16 has an interface to at least, for the system, a central computer 18 such as a personal computer, mini computer, mainframe computer etc., depending upon the size of the system. The central computer 18 is connected to at least one electronic data storage medium 20 which comprises a database.

The computer 18 and the electronic medium 20 constitutes a system node 10 which, via the exchange, can be connected to similar nodes found elsewhere. The interface between the exchange 16 and the central computer 18 is comprised of a modem pool for telecommunications and data communications. The central computer 18 is also connected to scanning equipment for documents, formulas, forms etc. (not shown). According to the present invention, the word document is used in a very broad sense. For example, a document can be a form or formulas, customer register, employee register, message, memo, any paper documents with text and/or graphics. The database in fig 1. is divided into three databases for each and every database subscriber (IC, A, B...organizations) and separately structured as, a document database 22, a records (archival) database 24 and a response database 26. An exchange operator 28 with a PC is between the exchange 16 and the computer 18. The ICC has a telefax 30, a PC 32 and a telephone 34, all three having their own subscriber identities with one or more operators of telecommunications 14. Besides the insurance company IC, a number of other business A and B.... and organizations subscribe to databases in the electronic storage medium 10. The number of business, organizations and private person subscribing to database areas is only limited by the capacity of the system, which in turn depends on the types of exchange 16 and computer 18. All telecommunication and computer equipment is connected to the trunks 36 of the operator of the telecommunications 14.

The insurance company (IC) subscribes to a memory area for each and every database to which the insurance company (database subscriber) is connected by the subscriber identity (yyy yyy) that it received as a subscriber from the operator of telecommunications 14. The document database 22 stores those document templates which, for example, their customers, ICC or others need to access. The records database 24 stores customer filled in documents such as forms or internal documents which concern the activities of the insurance

company. The records database may also store digitized images. The response database 26 is for storing filled in documents which are to be distributed to any numbers of addressees, for example, IC customers or vice versa, or to authorities or other businesses.

Referring to fig 2. in an embodiment of the invention, the ICC contacts the MDC pre-processing system 10 by using a PC 32 and its modem, for example, via a communications program to dial the system by using a subscriber identity (123 456, 220), tied to the exchange 16 for a connection to the IC database areas (see flow chart in fig 2). The subscriber identity (123 456) could also be tied directly to the database subscriber IC. When the ICC is connected to the system 10 he/she is then prompted to give a database subscriber identity 200, 230, after which the ICC keys-in any of the insurance company subscriber identities which have been obtained by the database subscriber via a subscription to the operator of a telecommunications system 14.

Instead of keying-in, if as mentioned the subscriber identity (123 456) is tied directly to the database subscriber IC, the telephone exchange 16 of course recognizes the calling A-party dialled number (123 456), indicated by reference numeral 225 in fig. 2. Hence, the system 10 through the exchange 16 automatically compares the detected calling A-party dialled identity (123 456) with the subscriber identity (123 456) stored in a first register (240). Thus omitting the prompting (230) of the database subscriber IC telephone number (yyy yyy) generally used for direct calls to the insurance company.

The first register 240 is prepared and maintained by the administrator MDC and contains all database subscriber (IC, A, B...) identities connected to the system.

The subscriber identity 200 is connected via a first register 240, for example a subscriber register table ("look up table") in the central computer 18, to a menu where the ICC can give his/hers subscriber identity (xxx xxx, 210) with any operator of telecommunications 14.

Alternatively, if a customer to a database subscriber is calling, a modern exchange 16 automatically detects or recognizes, indicated with reference numeral 245 in fig. 2, the calling A-party number (xxx xxx) and compares it with stored customer identities in a second register 260, thus omitting the prompting 250 of the A-party number (xxx xxx). This is advantageous so to say and allows only a customer ICC to call from his/her own premises or telecommunication devices, thus hindering persons that not are entitled to access the system from making calls.

The second register 260, is connected to the IC subscriber identity 200 in such a way

that it reveals the subscriber identities of all the IC customers.

A Second register 260 is prepared by each and every database subscriber (IC, A, B...) and may be maintained or up-dated by the administrator MDC wen necessary upon an order from the database subscriber IC. Every register 260 is unique for each and every database subscriber (IC, A, B...) containing mainly their customer subscriber identities.

Should the control show that the ICC is a customer of the IC then he/she will be connected to an external interface 280, for example a menu, which is adapted for the use of the IC customers. For example, the customer adapted menu 280 gives a choice of being connected to the document database 22 through A or the response database 26 through B. In most cases the records database should be reserved for the database subscriber IC. As the ICC wants to process a claim he/she chooses the document database, after which a list of available documents to the ICC is sent to the ICC PC 32.

Other prevalent internal and external interfaces can be of an associative type, for example, so-called expert systems and as such the calling party may inform the interface of his attention whereby it associates the information, for example to a wanted document.

When the ICC has chosen the appropriate claims form, the central computer 18 retrieves it from the document database 22 and sends it to the ICC PC 32 after which, for example, the PC stores the form in a log and then terminates its connection with the pre-processing system 10.

When the ICC has filled in the form he/she again dials the database (if the form was not filled in "on-line") via the PC. He/she then chooses the response database by which, and via the insurance company's own subscriber identity, stores the filled in form via a menu 300 in the insurance company's response database area 26 and then the central computer 18 files the document in the memory area 24 of the records database belonging to the insurance company. The IC however might decide to order the service, for example, that the central computer 18 calls the IC when a specified number of responses have been stored in the response database 26, respectively, records database 24 or that the IC has routines for retrieving responses at certain daily intervals.

If the ICC not possesses a PC he/she can ring to the exchange and be connected to the desired database by, for example, pressing the right combination of buttons on his/her telephone, after which The administrator of the pre-processing system, may either automatically via a computer connected to the telephone exchange, or manually telefax or mail the

required form to the ICC. The ICC can also make use of the function speech/response found in modern telephone exchanges and by which vocal speech can be digitized automatically. With speech/response the processing becomes even more automatic thereby eliminating manual handling. The administrator can also physically convey (mail) the relevant form to the customer. Forms (formulas) can be ordered through the administrator according to the needs of customers as they are stored as templates in, for example, the administrator document database. Those who procure forms and/or their customers return the filled in form, after which the administrator of the pre-processing system scans in the forms into the IC subscriber response database 26 and/or the records database 24.

If the IC customers have access to modern telecommunications and data communications, the pre-processing system 10 has saved several days of waiting for both the ICC and IC when compared to the normal conveyance of physical mail. Also in cases where a letter is sent as the means of conveyance to the ICC, at least one mail round is eliminated. The letter that the ICC wants to convey to the IC can be sent to the administrator of the pre-processing system 10 who then scans it and stores it in the response database 26, respectively, records database 24 or alternatively the IC may do likewise.

Another alternative involves that the administrator of the pre-processing system receives verbal procurement orders for forms (formulas) and/or after they have been filled in via telephone to an exchange operator 28 who, via his/her PC, regulates logistics, for example, by menu steering via information from the ICC. A natural complement to the exchange operator 28 is the above mentioned function of speech/response.

The system 10 with the external interface 280 for log-on, described with reference to fig. 2, allows a customer ICC to access a subscriber database area without using any pass code. This is possible due to the fact that a customer not is allowed to have access to the records database 24. Accordingly a customer ICC can not create any damage to filled in documents as he/she can only retrieve documents from the document database 22 or leave documents in the response database 26. Hence the system 10 with its external interface automatically 225, 245 or by prompting 230 connects a customer to the system.

To further illustrate the advantages and applications (uses) of the document pre-processing system 10, according to the invention, below is a description of how the IC can use the system 10 and thereby eliminate the pre-processing which is otherwise necessary to take place on the IC own premises ("in-house") or which is "outsourced" to businesses

offering these services.

An employee (ICE) of the IC intends to send out a form with a company letter. In the same manner as described above for the ICC, the ICE contacts The administrator MDC pre-processing system 10 with one of his/hers PC units, perhaps connected to a LAN, via a modem and the using the same subscriber identity (123 456) as the ICC (see flow chart i fig.2).

When the ICE accesses the system he/she is prompted 230 or automatically recognized by the exchange 16 according to above to give a database subscriber identity after which the ICE using the keyboard writes in any of the insurance company subscriber identities (yyy yyy, 200). The subscriber identity connects, via a subscriber register table 240 in the central computer 18, the ICE to the same menu 250 where the ICE enters a pass-code (pass-word). The pass-code is attended for those (IC, A, B...) who subscribe to the databases in the pre-processing system 10, for example the insurance company. Therefore the ICE chooses to give a pass code and is accepted into the system where the ICE is connected to an internal interface 270, here a menu 270 that, for example, offers the three alternatives, the document database 22, the records database 24, and the response database 26. According to choice the ICE is guided via sub-menus (not shown). Naturally all IC employee do not require access to all information in the databases which may be attributed to different technical methods of programming, well known for a person of ordinary skill in the art, and as such not treated in the present invention.

The ICE chooses the records database 24 where a customer letter is found and is retrieved to the ICE PC. The next step is to retrieve the relevant document (template) from the document database 22. Let say that a small number of customers will receive letters. The ICE then fills in the necessary information in the form via the PC and electronically sends theses letters with the filled in form to the response database 26 with an order for The administrator which, in this example, is the administrator MDC of the pre-processing system, to dispatch the letters. All of this can be done as previously shown via menus with which the administrator MDC and the insurance company IC communicate via a central computer 18.

Alternatively the ICE can use the previously described function with templates wherein the administrator dispatches letters with forms when ordered to by the ICE, and afterwards when returned the administrator scans in the responses into IC response database 26 and/or records database 24.

As an alternative to the menu with a choice between the database subscriber identities and passcodes to enable the customers of the IC to get differentiated access to each database respectively visa vi IC, the IC can dial the database using another number than ICC and thereby receive access to menus which are adapted to the IC needs. The ICC shall be denied access to the documents in the response database and records database if the IC does not grant such access. Looking to other businesses and organization besides the IC, their dealings might require cooperation thereby necessitating mutual access to these databases, however, with programmed access limitations.

Otherwise and in principle, the database subscribers (IC and other businesses, authorities, organizations and private persons) which are connected to the pre-processing system as database subscribers according to the invention, communicate in the same way as the ICC described above. Forms (formula) which are retrieved from the system can then be distributed via a LAN so that several employee can access a retrieved documents before the administrator distributes them as described above.

An alternative to the procedures described above comprises that a database subscriber such as the IC may have more than one subscription to the document pre-processing system via an operator of telecommunications connected to a telephone exchange, by which one or more subscriber identities are open to be used by IC customers to log-on to the system by one or more subscriber identities and reserved by the IC for logging on to the system. Accordingly this alternative provides for customers and different businesses to use their own identities to dial the system. This procedure distinguishes the system from usual and known large database systems where all customers in, for example a country, dialling a database with one and the same telephone number. It thereby eliminates the procedure of giving a user identity, avoids queuing and menus can be adapted to subscriber identities depending upon who the user is.

Known systems relate more generally to other identities then the system according to the present invention which preferably uses telecommunication operator subscriber identities. Known systems do most often not necessarily make use of a subscription identity at any operator of telecommunications. An administrator of the invention can easily use prevailing technology to create interfaces to connect the system to other systems such as those for transport planning and economy etc. so that an information interchange in several stages and levels is possible, thereby rationalizing the administrators own routines and

offering more effective customer service. For example, the administrator can, by using menus, connect the system to its own databases for the planning of transportation for physical documents, letters, forms. Moreover and in the same way, an interface to an administrator ADP-system and databases for invoicing and accounting is preferred.

Still further the present invention sets forth a device for logging on to a pre-processing system 10 comprising a set of means for performing the log-on to the system 10, where the device in one embodiment is connected to the computer 18 and the storage medium 20 (not shown).

The device is designed with means for addressing and downloading stored data in a first register (240) storing all the administrators MDC database subscriber identities (yyy yyy, 240) or for addressing and downloading up a second register (260) storing all subscriber identities (xxx xxx, 260) being obtained from telecommunication operators for one database subscriber. This can be accomplished and controlled by a microprocessor, in a known way by a person of ordinary skills in the art, for addressing a register and loading of data in a buffer memory.

Further, the above mentioned means are connected to means for comparing the system connecting subscriber identity (yyy yyy) with the subscriber identities stored in the first register (240) or for comparing the connecting customer identities (xxx xxx) stored in the second register (260). Such means are preferably comparators, well known in the art of computer architecture.

If the comparing operation is successfully conducted, i.e. the calling numbers and the stored numbers are the same, or if the pass code is correct, means for granting a first access and a second access to the system are connected to the comparators. The second access opens up the external 280 and internal interface 270 respectively. If the comparing operation fails, the calling party is denied access to the system according to the invention. Said means for access can be a flag register, a three-state buffer that gives a signal to open up the interfaces or not opening them etc.

The device according to the present invention could be integrated on a circuit board or in a Application Specific Integrated Circuit (ASIC) and inserted as a card in the computer.

It is not a purpose with the present invention to limit the applications (uses) of the invention to any one user, such as an insurance company with a MDC as administrator. The invention is meant to be used by those who have a need for external document processing

instead of in-house logistics. Many other administrators and users therefore can acquire and exploit the present invention.

The system concept of the invention presented herein, makes it unique an distinguishable from know technique, especially regarding the use of an internal interface 270 and an external interface 280 which allows for differentiated access to internal databases 24 for a database subscriber and externally for, for example, a customer of a database subscriber without he/she directly communicating with the other party. The present inventions log-on methods (interaction) and its independent two way communication between databases, as well as its facilitation of the use of the subscriber identities of the telecommunications operators (communications takes place on telecommunications and computer networks), makes it advantageous.

With the description of the present inventions logistic pre-processing system and its log-on principles as background, it should be obvious for a person of ordinary skill in telecommunications, using known telecommunications technology, to configure and design how systems shall communicate with each other on a hardware and software level. Hence, software, hardware, firmware, the handling of menus and communication protocols are not described in detail. Known standards such as, for example, CALS are preferably taken into account when technical implementations of the disclosed invention presented herein are carried out.

The invention also claims the use of further database areas than those three named. There are no technical difficulties in expanding the number of databases according to the needs of the subscribers, for example, by using additional menu options.

Still further, the present invention makes use of at least three structured or separate databases (for every subscriber), preferably accessible through subscriber identities, and not by databases which items (documents) are stored in sequence for all database subscribers items as they arrive to a single database area or three database areas common for all subscribers of the database services. I.e., thus avoiding complicated and time consuming data address transformation in order to find a specific item belonging to a specific subscriber (company or private person).

The above embodiments are to be regarded as preferred embodiments of the invention. Yet for a person of ordinary skill within the art of the technologies disclosed through the present invention, it is clear that there are additional embodiments within the framework

and wording of the attached claims.

Claims

1. Pre-processing system (10) with logistics for documents eliminating delays pertaining to document procurement and conveyance, said system (10) being centrally located at an administrator (MDC) of the system, and is comprised of a computer (18) connected to at least one electronic storage medium (20) and, furthermore, the computer (18) is connected to a telecommunications exchange (16) or modem pool, whereby the computer (18) together with the storage medium (20) make up a node in the system (10) which, via an exchange(16), can be connected to similar nodes, the system being accessible via existing telecommunications and computer networks (36), **characterized** in that the storage medium (20) enables the use of at least three separate memory areas for each database subscriber (IC, A, B...) connected to the system (10), the first memory area comprising a document database (22) for storing document templates, the second a records database (24) for filing the database subscriber internal documents and filled in incoming documents from externally concerned customers (ICC, A, B...), and the third a response database (26) through which all, from the nodes (10) incoming and outgoing procurement and conveyance of document dispatches and external incoming documents between the database subscriber (IC) and for its externally concerned customers (ICC, A, B...) pass and are stored, said pre-processing system (10) having two interfaces (270, 280), an internal (270) for each and every database subscriber (IC, A, B...) and an external (280) for each and every database subscriber externally concerned customers (ICC, A, B...) which have been granted access to at least the document database (22) and the response database (26) respectively by the database subscriber (IC, A, B...), said interfaces (270, 280) allowing document procurement and conveyance transactions between database subscribers (IC, A, B...) and between database subscribers and other externally concerned customers (ICC), and if said document transactions are resulting in the procurement/conveyance of physical paper documents to and from nodes at the systems (10) central location, they are handled and dispatched by the administrator of the system (10).

2. System according to claim 1, **characterized** in that those who log-on to the system for access to the databases specify any of the database subscriber (IC, A, B...) identities (yyy yyy, 200), said identities being received from one or more telecommunications operators.

3. System according to claim 1 or 2, **characterized** in that said person logging on is connected to the electronic storage medium for the databases, by which he/she is verbally or automatically prompted to give any of his/hers subscriber identities (xxx xxx, 210) which

have been obtained by one or more operators of telecommunications services.

4. System according to any of claims 1-3, **characterized** in that externally concerned customers (ICC, A, B...) and database subscribers (IC, A) have different subscriber identities (123 456, 220) for being connected to the system (10).

5. System according to any of claims 1-4, **characterized** in that externally concerned customers (ICC) are prompted to select the alternatives, document database (22) or response database (26) respectively.

6. System according to any of claims 1-4, **characterized** in that database subscribers (IC, A, B...) give a passcode (password), whereby they receive access to the databases (22, 24, 26).

7. System according to any of the previous claims, **characterized** in that all subscriber identities are controlled via a first register (240) connected to the system administrator and that all customers (ICC) to a database subscriber (IC, A, B...) are controlled by a second register connected to a specific database subscriber (IC).

8. System according to any of the previous claims, **characterized** in that the communications with the databases are controlled by menus (230, 250, 280, 290, 300).

9. System according to claim 8, **characterized** in that the menu controlled communications are regulated by a exchange operator (28) when a telephone conversation is involved.

10. System according to any of the previous claims, **characterized** in that database subscribers (IC, A, B...) can send requisition orders for individual and specific documents to the administrator of the document pre-processing system (10).

11. System according to claim 10, **characterized** in that said requisition order means that the administrator shall mail, convey or transmit the relevant document or documents from either the document database (22), records database (24) or response database (26) to a specified addressee.

12. System according to any of the previous claims, **characterized** in that the administrator stores document templates in its equivalent to the document database from which can be produced forms (formulas) ordered by a customer and then convey them to those whom the order designates, whereafter, the in such a way procured and returned filled in documents are stored into the ordering customer response database (26) and records database (24).

13. System according to any of the previous claims, **characterized** in that the computer (18) has an interface to the administrator systems for transport planning and economy.

14. Interfaces for logging on to a pre-processing system (10) with logistics for documents eliminating delays pertaining to document procurement and conveyance, said system (10) being centrally located at an administrator of the system, whereby document transactions resulting in the procurement/conveyance of physical paper documents to and from the systems (10) central location are handled and dispatched by the administrator of the system (10), said system comprising a computer (18) connected to at least one electronic storage medium (20) and, furthermore, said computer (18) being connected to a telecommunications exchange (16) or modem pool, whereby the computer (18) together with the storage medium (20) constitutes a node in the system (10) which, via an exchange(16), can be connected to similar nodes, the system being accessible via existing telecommunications and computer networks (36), said storage medium (20) enables the use of at least three separate memory areas for each database subscriber (IC, A, B...) connected to the system (10), said pre-processing system (10) having two interfaces (270, 280), an internal (270) for each and every database subscriber and an external (280) for each and every database subscriber externally concerned customers (ICC, A, B...) which have been entitled to access at least the document database (22) and the response database (26) respectively by the database subscriber (IC, A, B...), **characterized** by allowing a customer to a database subscriber to log-on to said system without any pass code and said database subscriber by a pass code, thereby connecting to said interfaces by at least one subscriber identity (123 456, 220, yyy yyy) for every database subscriber, said subscriber identities being obtained from telecommunication operators (14), said at least one subscriber identity opening up a first register (240) storing all said administrators database subscriber identities (yyy yyy, 240), comparing the connecting subscriber identity (yyy yyy) with said subscriber identities stored in said first register (240), said comparing of identities being successfully conducted granting a first access to the system, said first access prompting (250, B) a data base subscriber to enter a pass code, said passcode being granted opening said internal interface (270) or said first access prompting (250, A) a customer (ICC) to give his subscriber identity (xxx xxx) or said exchange automatically recognizing the customer identity (xxx xxx), whereby said system in a second register (260) stores database subscribers (IC, A, B....) customer identities (xxx xxx, 260),

comparing the given or recognized subscriber identity (xxx xxx) with stored identities (xxx xxx, 260), said comparing being successfully conducted granting a second access to the system opening up said external interface (280).

15. Interfaces according to claim 14, **characterized** in that said second access connects to a menu (280) where the customer decides which databases (22, 26) he/she would like to gain access to.

16. Interfaces according to claim 15, **characterized** in that said decisions opens up a menu (290, 300) for the, by decision, chosen database (22, 26).

17. Interfaces according to claim 14, **characterized** in that said second access opens up a menu (270) attended for the database subscriber.

18. Interfaces according to claim 14-17, **characterized** in that the communications with the databases are controlled by menus (230, 250, 280, 290, 300).

19. Interfaces according to claim 14-18, **characterized** in that the menu controlled communications are regulated by a exchange operator (28) when a telephone conversation is involved.

20. Interfaces according to claim 14-19, **characterized** in that database subscribers (IC, A, B...) can send requisition orders for individual and specific documents to the administrator of the document pre-processing system (10).

21. Interfaces according to claim 14-20, **characterized** in that said requisition order means that the administrator shall mail, convey or transmit the relevant document or documents from either the document database (22), records database (24) or response database (26) to a specified addressee.

22. Interfaces according to claim 14-21, **characterized** in that the administrator stores document templates in its equivalent to the document database from which can be produced forms (formulas) ordered by a customer and then convey them to those whom the order designates, whereafter, the in such a way procured and returned filled in documents are stored into the ordering customers´ response database (26) and records database (24).

23. Interfaces according to claim 14-22, **characterized** in that the computer (18) has an interface to the administrator's own systems for transport planning and economy.

24. Device for logging on to a pre-processing system (10) with logistics for documents eliminating delays pertaining to document procurement and conveyance; said system (10) being centrally located at an administrator of the system, whereby document

transactions resulting in the procurement/conveyance of physical paper documents to and from the systems (10) central location are handled and dispatched by the administrator of the system (10), said system comprising a computer (18) connected to at least one electronic storage medium (20) and, furthermore, said computer (18) being connected to a telecommunications exchange (16) or modem pool, whereby the computer (18) together with the storage medium (20) make up a node in the system (10) which, via an exchange(16), can be connected to similar nodes, said system being accessible via existing telecommunications and computer networks (36), said storage medium (20) enables the use of at least three separate memory areas for each database subscriber (IC, A, B...) connected to the system (10), said pre-processing system (10) having two interfaces (270, 280), an internal (240) for each and every database subscriber and an external (260) for each and every database subscriber externally concerned customers (ICC, A, B...) which have been entitled to access at least the document database (22) and the response database (26) respectively by the database subscriber (IC, A, B...) allowing a customer to a database subscriber to log-on to said system without any pass code and said database subscriber by a pass code, characterized by comprising:

means for addressing and downloading data from a first register (240) storing all said administrators database subscriber identities (yyy yyy, 240) or addressing and downloading data from a second register (260) storing all subscriber identities (xxx xxx, 260) being obtained from telecommunication operators for one database subscriber;

means for comparing the system connecting subscriber identity (yyy yyy) with said subscriber identities stored in said first register (240) or for comparing the connecting customer identities (xxx xxx) stored in said second register (260);

means for granting a first access and a second access to the system if said comparing of identities is successfully conducted or if the pass code is correct; and

said second access opening up said external (280) and internal interface (270) respectively.

25. Device according to claim 24, characterized in that the device is connected to said computer (18) and said storage medium (20).

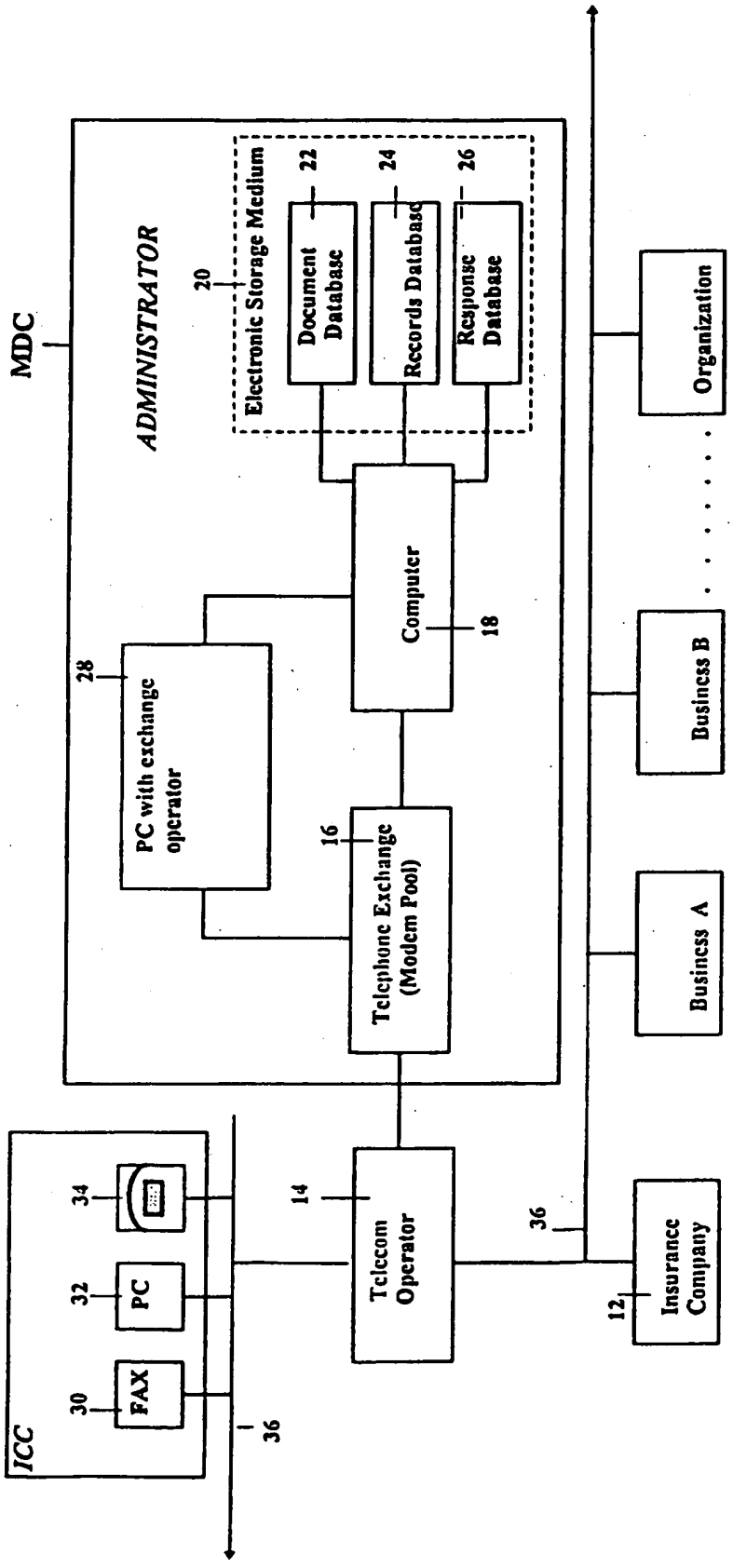
MDC
ADMINISTRATOR
Electronic Storage Medium
20
Document Database
22
Records Database
24
Response Database
26
Computer
18
PC with exchange operator
28
Telephone Exchange (Modem Pool)
16
Telecom Operator
14
ICC
34
PC
32
FAX
30
36
36
Insurance Company
12
Business A
Business B
Organization

FIG. 1

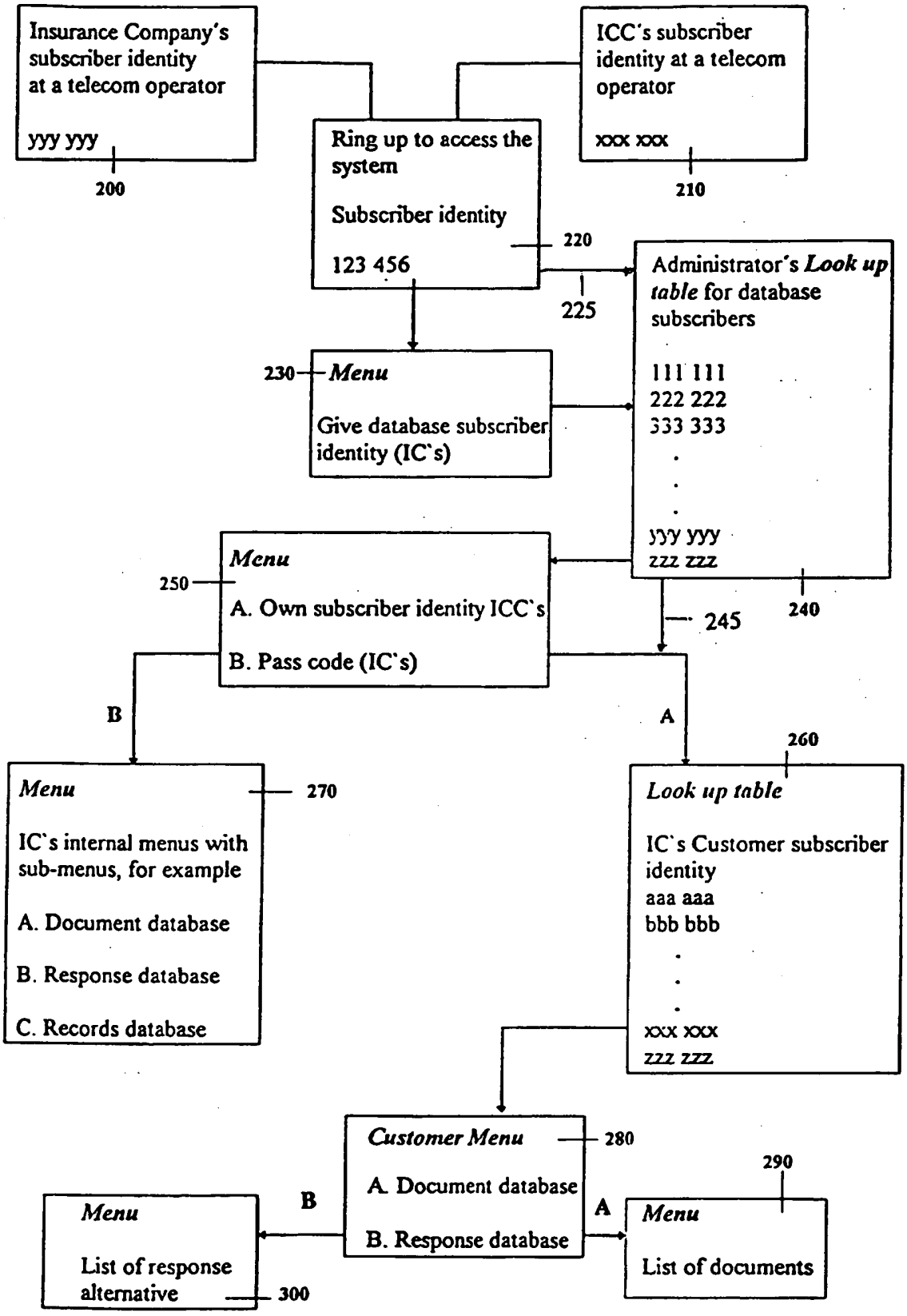
Insurance Company's subscriber identity at a telecom operator
yyy yyy
200
ICC's subscriber identity at a telecom operator
xxx xxx
210
Ring up to access the system
Subscriber identity
123 456
220
225
Administrator's Look up table for database subscribers
111 111
222 222
333 333
yyy yyy
zzz zzz
240
230
Menu
Give database subscriber identity (IC's)
250
Menu
A. Own subscriber identity ICC's
B. Pass code (IC's)
245
B
A
260
Menu
270
IC's internal menus with sub-menus, for example
A. Document database
B. Response database
C. Records database
Look up table
IC's Customer subscriber identity
aaa aaa
bbb bbb
xxx xxx
zzz zzz
Customer Menu
280
A. Document database
B. Response database
290
B
A
Menu
List of response alternative
300
Menu
List of documents

Fig. 2